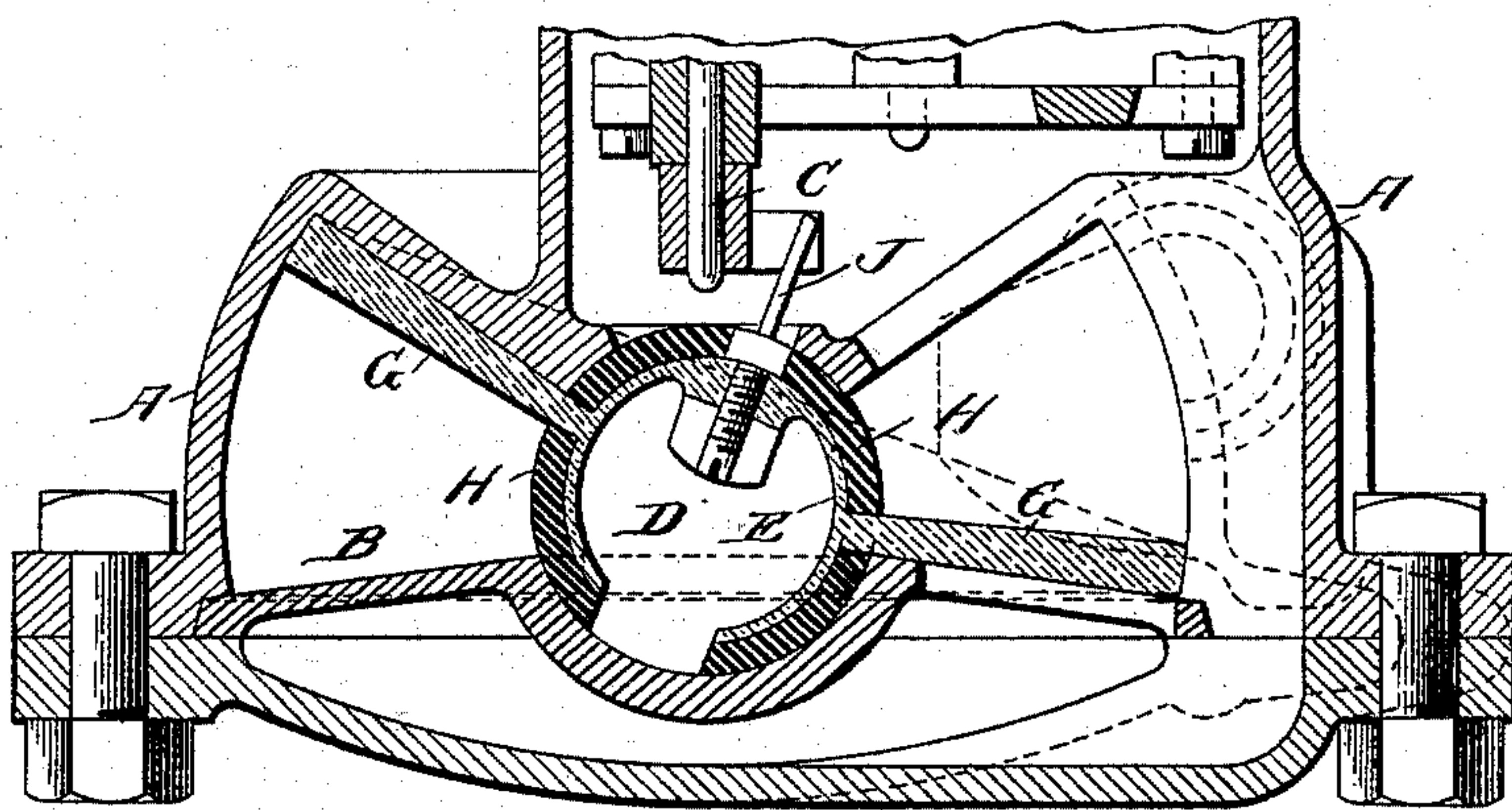


(No Model.)

L. H. NASH.  
DISK WATER METER.

No. 527,538.

Patented Oct. 16, 1894.



Witnesses

Aug. Johnson  
Edwin L. Bradford

Inventor  
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His Attorneys.



# UNITED STATES PATENT OFFICE.

LEWIS HALLOCK NASH, OF SOUTH NORWALK, CONNECTICUT, ASSIGNOR TO  
THE NATIONAL METER COMPANY, OF NEW YORK, N. Y.

## DISK WATER-METER.

**SPECIFICATION** forming part of Letters Patent No. 527,538, dated October 16, 1894.

Original application filed July 23, 1891, Serial No. 400,440. Divided and this application filed November 2, 1893. Serial No. 489,833. (No model.)

*To all whom it may concern:*

Be it known that I, LEWIS HALLOCK NASH, a citizen of the United States, residing in South Norwalk, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Disk Water-Meters, of which the following is a specification.

My present invention consists of certain novel parts and combinations of parts specifically pointed out in the claims concluding this specification.

For the purpose of informing those skilled in the art of the nature of my invention I have in the accompanying drawing shown a meter involving the same in the form which is at present preferred by me, which read in connection with the following description will enable persons skilled in the art to make and use the same, but it will be understood that my invention is not limited to the precise form shown and that various modifications may be adopted without exceeding the scope of the claims.

The following is a description of the structure illustrated in said drawing.

A B is a meter case preferably made of non-corrosive metal.

G is a nutating disk arranged for operation therein.

J is a pin carried by the ball of the disk making connection with an arm carried by a stud C, which connects with the registering mechanism of the meter. The piston is composed of metal disk G and metal ball E, the ball being coated exteriorly with a non-metallic surface H such, for example, as hard rubber. This rubber coating may be attached to the disk in any suitable way, as, for example, by the well known process of perforating the metal so as to tie the rubber to it in the process of vulcanization.

In an application for a patent of which this is a division, filed by me July 23, 1891, bearing Serial No. 400,440, I have shown and described the structure above referred to and I

have claimed the same with other forms generically but not specifically.

Among other advantages of the forms shown the following may be enumerated: By making the disk of a metal instead of hard rubber, as the disks of commercial meters of this type are now made, I entirely do away with the well known danger of fracture and distortion from various causes. However, if both piston and case were made entirely of metal the friction and wear occurring would make the structure of little or no value as a practical water meter. The principal friction surfaces are at the ball of the piston, and its seat in the case and by making these of different materials, the seat being of metal and the contact surface of the ball being of non-metallic material, the friction and consequent wear are very slight. Thus the maximum strength and minimum wear and friction are obtained and a durable and efficient meter is made. If desired, the parts of the case not in frictional contact with the piston ball might be made of non-metallic material, although I prefer to make them as described.

In the foregoing specification I have incidentally referred to some of the modifications which may be adopted in the practice of my invention but I have not endeavored to specify them all, and I desire it to be distinctly understood that mention by me of some modifications is not in any way intended to exclude others not referred to but which are within the spirit and scope of my invention.

The details illustrated and above described are not essential to the several features of my invention separately considered. This will be indicated in the concluding claims where the omission of an element in any given claim or the omission of reference to the detailed features of the elements mentioned is intended to be a formal declaration of the fact that the omitted elements or features are not essential to the invention therein covered.

What I claim is—

1. In a water meter, the combination of a nutating piston composed of a ball and disk, both made of metal, the friction surface of the ball being coated with non-metallic material and a case, that portion of which is in frictional contact with the ball of the piston being made of metal.

5 2. In a water meter a nutating piston com-

posed of ball and disk both made of metal, the friction surfaces of the ball being coated with non-metallic material and the metal surfaces of the disk being exposed.

LEWIS HALLOCK NASH.

Witnesses:

J. EDGAR BULL,

M. WILSON.